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BOSTON, MA 02109

EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,370

Applicant(s)

WIESLER ET AL.

Examiner

Chongshan Chen

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1-33 are pending in this Office Action.

Information Disclosure Statement

2. The reference cited in the IDS, PTO-1449, Paper No. 5, has been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 11, 15-22 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Lambson et al. ("Lambson", "Automated reticle transport and stepper loading", Solid State Technology, V39, n10, p97, Oct. 1996, ISSN: 0038-111X).

As per claim 1, Lambson discloses an apparatus for managing data corresponding to a plurality of reticles in a semiconductor manufacturing system including a plurality of processing stages, the apparatus comprising:

a central reticle database configured and arranged to store data associated with each of the plurality of reticles (Lambson, page 2-3);

a reticle management controller coupled to the central reticle database, the reticle management controller configured and arranged to store and retrieve data from the central reticle database (Lambson, page 1);

a stocker including a stocker controller, a stocker database, and a plurality of storage locations configured and arranged to store at least one of the plurality of reticles, the stocker controller coupled to the stocker database, the stocker controller configured and arranged to store at least a portion of the plurality data corresponding to the at least one of the plurality of reticles stored within the plurality of storage locations within the stocker database (Lambson, page 1-5); and

the reticle management controller coupled to the stocker controller, the reticle management controller configured and arranged to receive from and to provide, to the stocker controller, at least a portion of the plurality data corresponding to each of the at least one of the plurality of reticles stored within the plurality of storage locations (Lambson, page 1-5).

As per claim 2, Lambson teaches all the claimed subject matters as discussed in claim 1, and further discloses the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle identifying data (Lambson, page 1-5).

As per claim 3, Lambson teaches all the claimed subject matters as discussed in claim 2, and further discloses the plurality of reticle identifying data includes: an attribute identifying the reticle; an attribute identifying the location of the reticle (Lambson, page 1-5).

As per claim 11, Lambson teaches all the claimed subject matters as discussed in claim 1, and further discloses a central system database configured and arranged to store data corresponding to the system requirements of the plurality of reticles; and the reticle management controller coupled to the central system database, the reticle management controller configured and arranged to store and retrieve system data from the central system database (Lambson, page 1-5).

As per claim 15, Lambson teaches all the claimed subject matters as discussed in claim 1, and further discloses a plurality of stockers, each of the plurality of stockers including a stocker controller, a stocker database, and a plurality of storage locations configured and arranged to store at least one of the plurality of reticles, the stocker controller configured and arranged to collect at least a portion of the plurality data corresponding to each of the at least one of the plurality of reticles stored within the plurality of storage locations and to store the at least a portion of data within the stocker database; and the reticle management controller coupled to each of the plurality of stocker controllers, the reticle management controller configured and arranged to receive from each of the plurality of stocker controllers and to provide to each of the plurality of stocker controllers, at least a portion of the plurality data corresponding to each of the at least one of the plurality of reticles stored within the plurality of storage locations corresponding to each of the plurality of stockers (Lambson, page 1-5).

As per claim 16, Lambson discloses an apparatus for managing a plurality of reticles in a semiconductor manufacturing system including a plurality of processing stages, the apparatus comprising:

a central reticle database configured and arranged to store data corresponding to each of the plurality of reticles (Lambson, page 2-3);

a reticle management controller coupled to the central reticle database, the reticle management controller configured and arranged to store and retrieve data from the central database (Lambson, page 1);

a stocker unit including a stocker controller, a stocker database, and a plurality of storage locations configured and arranged to store at least one of the plurality of reticles, the stocker

controller configured and arranged to collect at least a portion of the plurality data corresponding to each of the at least one of the plurality of reticles stored within the plurality of storage locations and to store the at least a portion of data within the stocker database (Lambson, page 1-5);

the reticle management controller coupled to the stocker controller, the reticle management controller configured and arranged to receive from and to provide to at least a portion of the plurality data corresponding to each of the at least one of the plurality of reticles stored within the plurality of storage locations (Lambson, page 1-5);

a reticle moving system configured and arranged to load a reticle at the stocker and deliver the reticle to a destination (Lambson, page 1-2); and

the reticle management controller coupled to the reticle moving system, the reticle management controller configured and arranged to provide one or more move commands to the reticle move system, the reticle move system configured and arranged to receive the one or more move commands and operative to execute the one or more move commands (Lambson, page 1-2).

As per claim 17, Lambson teaches all the claimed subject matters as discussed in claim 16, and further discloses the stocker unit is a first stocker unit, and wherein move command includes a command to store the reticle at a second stocker unit (Lambson, page 1-2).

As per claim 18, Lambson teaches all the claimed subject matters as discussed in claim 16, and further discloses the move command includes a command to retrieve the reticle from a second stocker unit (Lambson, page 1-2).

As per claim 19, Lambson teaches all the claimed subject matters as discussed in claim 16, and further discloses the move command includes a command to retrieve the reticle from a second stocker unit, move the reticle to the first stocker unit, and to store the reticle at the first stocker unit (Lambson, page 1-2).

Claims 20-22 are rejected on grounds corresponding to the reasons given above for claims 1-3.

Claim 30 is rejected on grounds corresponding to the reasons given above for claim 11.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-10, 12-14, 23-29 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambson et al. ("Lambson", "Automated reticle transport and stepper loading", Solid State Technology, V39, n10, p97, Oct. 1996, ISSN: 0038-111X) in view of "PRI Automation Automation Announces New Combination Reticle Stocker", ("PRI", PR Newswire, p9143, Oct 26, 1999).

As per claim 4, Lambson teaches all the claimed subject matters as discussed in claim 3, except for explicitly disclosing an attribute identifying a reticle carrier housing the reticle; an attribute identifying a the date and time the reticle was entered into use; and an attribute identifying a user identifier who created the reticle. PRI discloses a reticle management system

for complete reticle lifecycle management (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying a reticle carrier housing the reticle; an attribute identifying a the date and time the reticle was entered into use; and an attribute identifying a user identifier who created the reticle in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 5, Lambson teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle history data. PRI discloses the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle history data (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 6, Lambson teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing an attribute identifying the number of times the reticle has been retrieved; an attribute identifying the date the reticle was last retrieved; an attribute identifying the number of times the reticle has been stored; and an attribute identifying the date the reticle was last stored. PRI discloses a reticle management system for complete reticle lifecycle management (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying the number of times the reticle has been retrieved; an attribute identifying the date the reticle was last retrieved; an

attribute identifying the number of times the reticle has been stored; and an attribute identifying the date the reticle was last stored in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 7, Lambson teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing an attribute identifying a user identifier who last selected the reticle; and an attribute identifying a user identifier who last stored the reticle. PRI discloses a reticle management system for complete reticle lifecycle management (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying a user identifier who last selected the reticle; and an attribute identifying a user identifier who last stored the reticle in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 8, Lambson teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle maintenance data. PRI discloses the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle maintenance data (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 9, Lambson teaches all the claimed subject matters as discussed in claim 8, except for explicitly disclosing a plurality of reticle maintenance data includes: an attribute identifying the number of times the reticle has been cleaned; an attribute identifying the date on which the reticle was last cleaned; an attribute identifying the number of times the reticle was inspected; and an attribute identifying the date on which the reticle was last inspected. PRI discloses a reticle management system for complete reticle lifecycle management (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying the number of times the reticle has been cleaned; an attribute identifying the date on which the reticle was last cleaned; an attribute identifying the number of times the reticle was inspected; and an attribute identifying the date on which the reticle was last inspected in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 10, Lambson teaches all the claimed subject matters as discussed in claim 9, except for explicitly disclosing an attribute identifying a user identifier who last cleaned the reticle; an attribute identifying a location where the reticle was last cleaned; an attribute identifying a user identifier who last inspected the reticle; and an attribute identifying a location where the reticle was last inspected. PRI discloses a reticle management system for complete reticle lifecycle management and reticle cleaning (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying a user identifier who last cleaned the reticle; an attribute identifying a location where the reticle was last cleaned; an attribute identifying a user identifier who last inspected the

reticle; and an attribute identifying a location where the reticle was last inspected in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 12, Lambson teaches all the claimed subject matters as discussed in claim 11, except for explicitly disclosing an attribute identifying the maximum number of cleanings of a reticle; an attribute identifying the maximum number of inspections of a reticle; an attribute identifying the maximum number of uses of a reticle between inspections; and an attribute identifying the maximum number of uses of a reticle between cleaning. PRI discloses a reticle management system for complete reticle lifecycle management and reticle cleaning (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying the maximum number of cleanings of a reticle; an attribute identifying the maximum number of inspections of a reticle; an attribute identifying the maximum number of uses of a reticle between inspections; and an attribute identifying the maximum number of uses of a reticle between cleaning in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 13, Lambson teaches all the claimed subject matters as discussed in claim 11, except for explicitly disclosing an attribute identifying the maximum time between inspections of a bare reticle; and an attribute identifying the maximum time between cleanings of a bare reticle. PRI discloses a reticle management system for complete reticle lifecycle

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management and reticle cleaning (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying the maximum time between inspections of a bare reticle; and an attribute identifying the maximum time between cleanings of a bare reticle in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

As per claim 14, Lambson teaches all the claimed subject matters as discussed in claim 11, except for explicitly disclosing an attribute identifying the maximum time between inspections of a kitted reticle; and an attribute identifying the maximum time between cleanings of a kitted reticle. PRI discloses a reticle management system for complete reticle lifecycle management and reticle cleaning (PRI, page 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an attribute identifying the maximum time between inspections of a kitted reticle; and an attribute identifying the maximum time between cleanings of a kitted reticle in order to manage the complete reticle lifecycle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine PRI with Lambson in order to manage the complete reticle lifecycle.

Claims 23-29 are rejected on grounds corresponding to the reasons given above for claims 4-10.

Claims 31-33 are rejected on grounds corresponding to the reasons given above for claims 12-14.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (703) 305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

CC
August 8, 2003


JEAN M. CORRIELUS
PRIMARY EXAMINER